

# MISSOURI CONSERVATIONIST

VOLUME 84, ISSUE 4, APRIL 2023  
SERVING NATURE & YOU



# APRIL IS MISSOURI OUTDOORS MONTH

Biking is a great way to get your daily dose of nature, and now cyclists have more places to ride on Missouri's conservation lands. Bicycles and some e-bikes are now allowed on roads open to public vehicles, multiuse trails, and most service roads.

MDC has approximately 1,000 conservation areas. Download the free **MO Outdoors** app to discover which areas allow bicycle use.



## BIKING TIPS BEFORE YOU GO

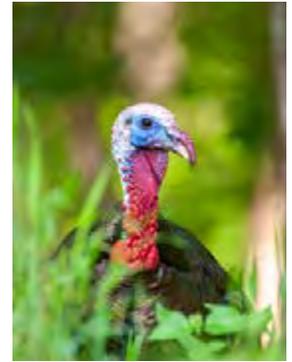
- ✓ Carry the right gear, water, and food
- ✓ Carry ID
- ✓ Wear a helmet
- ✓ Check for location and road closures during hunting seasons
- ✓ Check the weather before heading out
- ✓ Follow Missouri laws on public roads and be mindful of traffic



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APRIL 2023  
VOLUME 84, ISSUE 4

MISSOURI  
CONSERVATIONIST



## ON THE COVER

Wild turkey in spring cover

**NOPPADOL PAOTHONG**

500mm lens, f/8  
1/100 sec, ISO 800

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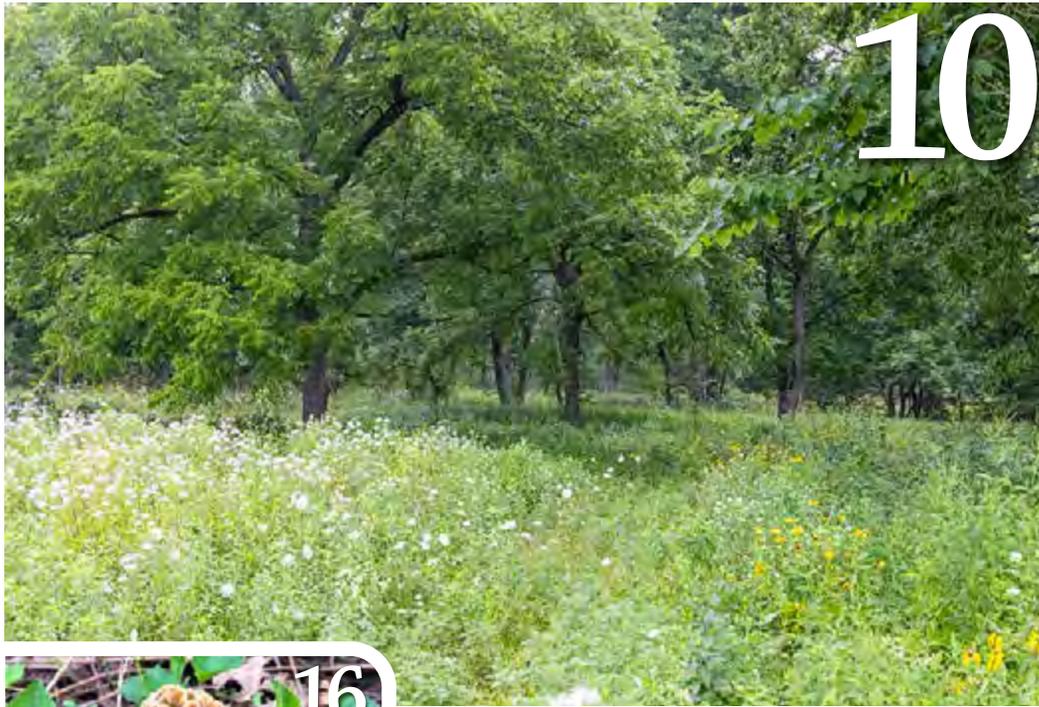
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Rainbow darter



Download this issue to your phone or tablet at [mdc.mo.gov/mocon](http://mdc.mo.gov/mocon).



# Inbox



## Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email [Magazine@mdc.mo.gov](mailto:Magazine@mdc.mo.gov) or write to us:

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Explore both the latest and past issues on the MO Con Mag app!



## A GOOD READ

The *Missouri Conservationist* arrived in my mailbox, or at least the hyperlink did. As usual, I refreshed my coffee and jumped right into it. I expected to be in my own little world of joyful exploration for quite a while. You had me as soon as I saw the bluebird on the cover [February]. It really is a splendid piece of work on all levels, and I just wanted to say a word of thanks. My friend is recovering (I hope) from Lyme disease, so I especially appreciated the thorough look at ticks [*Show-Me Ticks*, Page 16].

George Freeman Springfield

## FLYING HIGH

I enjoyed *Flying High* [February, Page 10] and commend MDC for their involvement in the return of bald eagles in the state. I was involved in research on the effects of pesticides on bald eagles and other raptors as a research biologist with the U.S Fish and Wildlife Service.

I am awed by the rapid rate of recovery of bald eagle populations as well as current numbers of breeding pairs throughout the country. I was told in the 1960s, when in college on the west coast, that Missouri had the best conservation department in the U.S. May MDC keep up their excellent work on a multitude of conservation projects.

Stan Wiemeyer St. Joseph

*Editors' note: In February's article, Flying High, it was stated that by 1963, the estimated number of nesting pairs of bald eagles in the continental U.S. had fallen to 417. It is more accurate to describe the affected area as the 48 contiguous states. The continental U.S. includes Alaska, whose eagle population — while facing its own challenges — was significantly larger and more stable than that of the lower 48 states.*

## KEEP XPLORING

Thank you for providing such wonderful publications! Nearing 40 years of age, I enjoy both the *Missouri Conservationist* and *Xplor*. In fact, I have been working on *Year of Epic Adventures* [*Xplor* January/February 2021]. It has been two years of working on the list, but I am determined to do every item. Some of my favorites have been watching bald eagles at Eagle Bluff CA, building snowshoes, and visiting Taum Sauk Mountain. Thank you for providing such a great way for my husband and I to explore our great state.

Rachel B. Hanson New Franklin

*Editors' note: Xplor, published bimonthly, reconnects kids, and kids at heart, to nature and helps them find adventure in their own backyard. For more information, visit [mdc.mo.gov/xplor](http://mdc.mo.gov/xplor).*

## Connect With Us!



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Send a note using our online contact form at [mdc.mo.gov/commissioners](http://mdc.mo.gov/commissioners).

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The Missouri Department of Conservation protects and manages the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.



### Want to see your photos in the Missouri Conservationist?

Share your photos on Flickr at [flickr.com/groups/mdcreaderphotos-2023](https://www.flickr.com/groups/mdcreaderphotos-2023) or email [Readerphoto@mdc.mo.gov](mailto:Readerphoto@mdc.mo.gov).



1

1 | American toad by Brad Wilson, via Flickr



2

2 | Current River by Paul Rains, via Flickr

3 | Minnow fishing by Michael Keith, via email



3



### Want another chance to see your photos in the magazine?

➔ In the December issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.



# Up Front

with Sara Parker Pauley

✳ **What do you call 60,000 crazed turkey hunters coming together under one roof?** Answer — The 50th anniversary of the National Wild Turkey Federation (NWTf), celebrated this February during their annual convention in Nashville, Tennessee. Attending the NWTf convention is like a huge homecoming, with relatives you never knew you had, most of whom you actually like. This convention is one of my favorite annual events, in part because I, too, am a crazed turkey hunter and love the camaraderie of like-minded folks. And, oh, the treasures you find there — the latest in turkey hunting gear, beautifully handcrafted turkey calls, and anything and everything for great outdoor adventures. And the sounds! Whether you're listening in on the national turkey calling championships or walking the convention center floor full of folks trying out the latest in new turkey calls — 'tis sweet melodious music to passionate hunters of the *Meleagris gallopavo*, our beloved bird's scientific name.

The convention was extra special this year as our Missouri state chapter took home the coveted L.A. Dixon Award, considered the top award given for local and state NWTf chapters for overall achievement. So, here's a shout out to Missouri's nearly 70 NWTf chapters and all the amazing volunteers that support our wild turkeys and our hunting traditions (see *Tending for Turkeys* on Page 10).

Spring has finally arrived. Turkeys are gobbling, mushrooms are popping, wildflowers are blooming. My turkey vest is packed full, new calls and all. Get your outdoor bags packed and let the adventures begin!

**SARA PARKER PAULEY**, DIRECTOR  
[SARA.PAULEY@MDC.MO.GOV](mailto:SARA.PAULEY@MDC.MO.GOV)

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# Nature LAB at WORK

by Angie Daly Morfeld

The Missouri Department of Conservation team is diverse and dedicated to conserving, protecting, and improving our fish, forest, and wildlife resources.

## Malissa Briggler STATE BOTANIST

✳️ **As the state botanist, Malissa Briggler serves as MDC's plant expert.** While not a professionally educated mycologist, or person who studies fungi, she also lends her expertise to mushroom identification.

**"The overall mission of the department goes beyond fish and game management. The work I do is essential to protecting and managing the flora and habitat for nongame wildlife."**

### A Typical Day

Daily tasks change with the seasons, Malissa says. Rare plant surveys begin as early as March and can last through October. Sometimes she conducts them in the field, but more often she receives the reports from other biologists throughout the state and enters the data into the Missouri Natural Heritage Database. To coordinate the Missouri Ginseng Program, her work involves agent training in the spring, monitoring in the summer, and harvest data collection in the fall. Many questions come for plant and mushroom identification throughout the year, but mostly in the spring, summer, and fall. The work she does for various articles, reports, and publications is done primarily in the winter.



Malissa is monitoring populations of rare plants that help inform land management objectives and decisions.

### Project She's Most Proud Of

"I'm proud of being a part of the Missouri Natural Heritage Program," Malissa says. "This program includes major contributions by some heroic botanists in Missouri over the past 100 years."

This program tracks rare species and natural communities. It not only helps to inform management decisions and strategic planning for MDC, but it is also used by other agencies to assess environmental impacts for development projects, learn more about the distribution and abundance of rare species and natural communities, and advise conservation partners and private landowners.

### Source of Her Passion

Malissa grew up in Callaway County and always liked the outdoors. As a child, she thought working for the department would be fun.

"I have a job that I truly enjoy and that is a special gift not to be taken for granted," Malissa says. "I also strive to live up to the reputation of MDC. We are regarded as one of the best state wildlife agencies in the country. I'm proud of that and want it to stay that way."

### How You Can Help

Contact Malissa at [Malissa.Briggler@mdc.mo.gov](mailto:Malissa.Briggler@mdc.mo.gov) with plant or mushroom questions. "Many citizens call with a question and the first thing they do is apologize for bothering me," Malissa says. "It's never a bother, and their questions have made me a better botanist and amateur mycologist over the years. I appreciate that!"

### Her Education

- Bachelor's degree, Lincoln University: agriculture, emphasis in natural resources.
- Master's degree, University of Nebraska: range and forage management. Her thesis focused on prairie restoration.

# In Brief

News and updates from MDC

Property Agent Justin Head sent MDC this and other photos to verify the state's 100th confirmed mountain lion sighting last year. The photos were taken Oct. 30 by a trail camera on private property in Livingston County.



## RECORD MOUNTAIN LION SIGHTINGS

MDC'S SPECIAL RESPONSE TEAM CONFIRMS NUMBERS OF REPORTED INCIDENTS

→ While MDC cannot yet confirm a mountain lion breeding population in Missouri, we can confirm more than 100 sightings in the state since 1994. The 100th confirmed sighting came out of Livingston County in October 2022 and was verified through trail camera photographs. MDC confirmed at least seven more sightings since.

MDC receives many reports of mountain lion sightings every year, but the majority of those have no physical evidence, such as photographs, hair samples, scat, or footprints, to verify the sighting. MDC's Large Carnivore Response

Team, composed of specially trained individuals, receives the reports of sightings and conducts a sight visit in some situations if there is physical evidence. In some situations, the team must give the report an "unconfirmed" determination because of a lack of information and evidence.

"This doesn't mean that it wasn't a mountain lion," said MDC Wildlife Management Coordinator Alan Leary. "It means we didn't have enough information or evidence to confirm it, such as a photograph being too blurry."

Leary added that the number of reports generally goes up in the fall when there are more people and trail cameras in the woods.

"MDC has no evidence that there is a breeding population of mountain lions in the state at this time because we have never been able to confirm a female with kittens," said Leary, who co-chairs the Large Carnivore Response Team. "There have only been two female mountain lions confirmed in the state. The first one was shot by hunters in Carter County in 1994. The second was confirmed from DNA taken from an elk carcass in Shannon County in 2016. We believe most of the individuals seen in Missouri are juvenile males that are dispersing from nearby states and looking for a territory and a mate."

To learn about our more than 100 confirmed mountain lion sightings, how to report a mountain lion, and more, visit online at [short.mdc.mo.gov/ZrU](https://short.mdc.mo.gov/ZrU).



## CELEBRATE MISSOURI TREES THROUGH ARBOR DAYS IN APRIL

Celebrate the value of Missouri trees and forests during Arbor Days in April by planting native trees and practicing proper tree care.

Missouri Arbor Day is Friday, April 7. Missouri has been observing the state's official Arbor Day on the first Friday in April since 1886 when the General Assembly declared that day be set aside for the appreciation and planting of trees. National Arbor Day is recognized on the last Friday of April, which is April 28 for 2023.

Get information on backyard tree care, including types of trees for urban and other landscapes, selecting the right tree for the right place, planting tips, watering and pruning, and more at [short.mdc.mo.gov/Z3J](https://short.mdc.mo.gov/Z3J).

MDC's George O. White State Forest Nursery near Licking offers residents a variety of low-cost native tree and shrub seedlings for reforestation, windbreaks, erosion control, and wildlife food and cover. Orders are accepted through April 15. For more information, visit [short.mdc.mo.gov/ZNZ](https://short.mdc.mo.gov/ZNZ).

Communities around the state also hold local Arbor Day activities. For more information on Arbor Day and Missouri's Tree City USA communities, visit the Arbor Day Foundation at [arborday.org](https://arborday.org).

Missouri forests cover about one-third of the state and provide outdoor recreation, wildlife habitat, natural beauty, and watersheds for streams and rivers. Spending time in Missouri forests can provide a natural health benefit, too. Exposure to nature contributes to your physical well-being, reducing your blood pressure and heart rate, relieving stress, and boosting your energy level. Get more information at [short.mdc.mo.gov/4oT](https://short.mdc.mo.gov/4oT).

# Ask MDC

## Got a Question for Ask MDC?

Send it to [AskMDC@mdc.mo.gov](mailto:AskMDC@mdc.mo.gov)  
or call 573-522-4115, ext. 3848.

**Q: We saw a cute little shorebird directly below the Audubon Center at Riverlands. As it walked along the shore, it kept bobbing. Is this a spotted sandpiper?**

→ Yes, this is a spotted sandpiper (*Actitis macularius*). This species has well-defined spots on its breast and brown feathers on its upper body. Although the many sandpiper species can be challenging to differentiate in the field, their walk is a good indicator — they tend to teeter, nod, and bob their tails. Additionally, they utter a *weet* or *peet-weet* sound, or a long series of *weet* notes, if alarmed. They are also the only American sandpiper with a combined eye-ring and superciliary eyeline.

They are common near many types of freshwaters, including rivers and streams, but they also live near seacoasts. They forage for insects, crustaceans, worms, snails, and other small invertebrates, probing mud and sand with their slender beaks. In Missouri, they can be found near stream banks, flooded row-crop fields, and mudflats.

Spotted sandpipers have the largest breeding range of any sandpiper in North America. They arrive in Missouri in April and stay through the end of September. During that time, they build nests within 100 yards of shore, often beneath the shade of a broad-leaved plant. Clutches usually have



Spotted sandpiper

three to five eggs, which hatch in about 20 days. Interestingly, males and females have reversed sex roles. Females perform courtship displays, defend territories, and can have multiple mates, while males tend the nest and chicks. Their winter range extends from the southern coast of the United States southward through most of South America.

Mudflats along the Missouri and Mississippi rivers are good places to search for sandpipers during the breeding season. But they also can be found in many other Missouri wetland areas during migration. For more information, visit [short.mdc.mo.gov/4gi](https://short.mdc.mo.gov/4gi).

**Q: What animal is creating these holes in the yard? They are approximately 1½ inches in diameter?**

→ These holes were likely dug by crayfish. Most stream-dwelling crayfish are tertiary burrowers and reach their

greatest abundance in riffles, runs, and the margins of pools where they tunnel in gravel or dig cavities beneath cobble and boulder-sized rocks. Secondary burrowers are crayfish that live in standing water. They use vegetation and woody debris to hide from predators and burrow to seek groundwater when their water body dries up.

Primary burrowers — like this one in your yard — are those that spend their entire life within a burrow that extends down to, and sometimes below, the water table. They use subsurface water for moisture and breathing. An earthen “chimney” is a telltale sign that you have found the opening to a crayfish burrow. Missouri has nine known species of burrowing crayfish. They often excavate and inhabit tunnels near surface water like streams, ponds, marshes, and even human-made ditches.

They often build chimneys of excavated soil near the surface. These chimneys can act as ventilation structures, drawing fresh air down into a burrow system that can be



Crayfish chimney

more complex than it appears from the surface.

A vital food source to many animals, crayfish are called “keystone” organisms because their presence greatly benefits the health and stability of the ecosystem they inhabit. More than 210 other species prey upon crayfish. They are also considered “ecosystem engineers” because as they modify their surrounding environment, they often provide habitat for other animals and plants.

Crayfish burrowing in wetland, prairie, farm, and residential soils aerates the soil, mixes essential nutrients, moves water around, and helps maintain healthy plant communities and grasses.



## Katie Stoner

OSAGE COUNTY  
CONSERVATION AGENT

*offers this month's*

# AGENT ADVICE

Missouri's outdoors provide a lot of opportunity in April. From mushroom hunting to crappie fishing and turkey season, your springtime calendar can fill up quickly. Going turkey hunting? Remember, safety first. There are more hunting incidents statewide during turkey season, but with proper precaution and planning, it doesn't have to be that way. Practice proper firearm safety, always know your target, and what is beyond it. While carrying a turkey out of the woods, wrap your harvest in hunter orange and wear hunter orange to make you visible to other hunters. Mushroom hunting? Wear bright colors to make sure you are easily visible to turkey hunters. Following these simple tips can keep everyone safe.

## What IS it?

Can you guess this month's natural wonder?

*The answer is on Page 9.*





# MUSHROOM LOVER'S CREAMED MORELS

Most people think of morels when they hear the words “wild mushrooms.” Morels are treasured for their delicious flavor and the fun of the hunt, often a family tradition spanning generations. This dish is described as “pure bliss for morel enthusiasts.” Use the bread to dip and scoop.

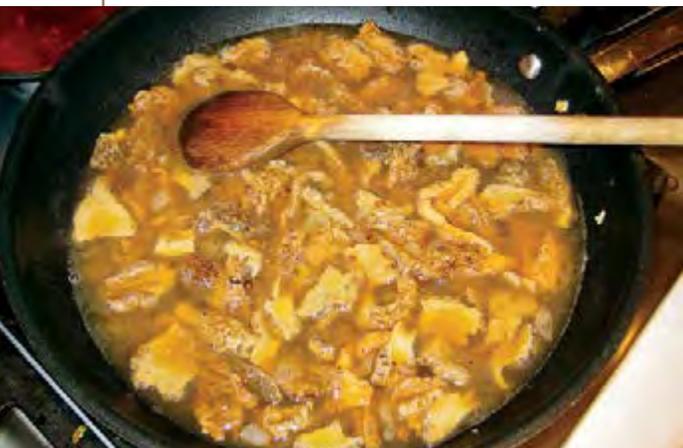
Serves 6 to 8

## INGREDIENTS:

- 2 cups fresh or 1 handful dried morels
- 2 tablespoons unsalted butter
- 2 shallots, finely chopped
- 1 pint cream (or half and half; however, cream makes it absolutely superb)
- Salt and freshly ground black pepper
- 2 to 3 tablespoons Marsala (see Ingredient Tip)
- Good rustic bread

**IF USING FRESH MORELS**, cut each one in half lengthwise. Pick out bugs and dirt and wash only if necessary. If you have large morels, cut them into smaller pieces — but not too small.

**IF USING DRIED MORELS**, reconstitute in water. When sufficiently plump, drain mushrooms through a fine strainer and reserve liquid in a small bowl. Squeeze out any liquid from the mushrooms into the strainer over the bowl. Cut mushrooms into pieces as above.



This recipe is from *Cooking Wild in Missouri* by Bernadette Dryden, available for \$16 at most MDC nature centers and online at [mdcnatureshop.com](http://mdcnatureshop.com).

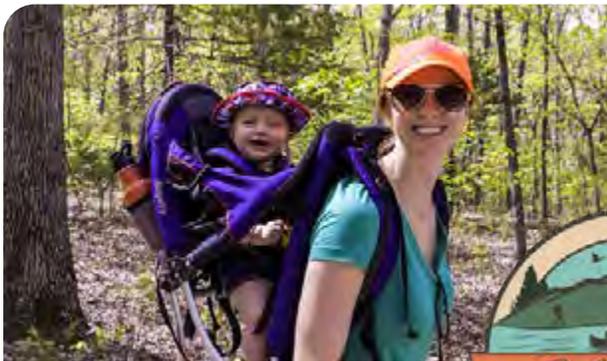
**MELT** the butter in a large saucepan or skillet. Add shallots and sauté for a few minutes. Add the morels, stir, and sauté for a few minutes more. If you have used dried morels, add the morel liquid, being careful not to pour in any sediment that may have slipped through the strainer (it could be sand or bugs).

**COOK** morels until most of the liquid in the pan has evaporated. Add cream and cook for a few minutes. Add salt and pepper to taste, then Marsala to taste.

**SERVE** in shallow bowls and accompany with bread.

## INGREDIENT TIP

Marsala, a fortified wine from Sicily, usually is available where wines are sold.



## CELEBRATE THE OUTDOORS IN APRIL!

Spring in Missouri is magical — the days get longer, the woods come alive with tiny buds on trees, dainty wildflowers spring from the earth, and peepers are peeping, turkeys are scratching, coyotes are calling, owls are hooting, and birds are singing. This is the time of year to get outside and discover nature by finding a new turkey hunting spot or crappie fishing spot, biking or hiking new trails, birding, camping, kayaking, canoeing, and other outdoor adventures.

MDC joins the Conservation Federation of Missouri and the Missouri Conservation Heritage Foundation to recognize April as Missouri Outdoors Month. April is traditionally when warm weather brings out nature’s best, and this partnership encourages and challenges individuals and families to discover nature and enjoy the outdoors.

Discover things to do at [short.mdc.mo.gov/45Z](http://short.mdc.mo.gov/45Z) and new places to go at [short.mdc.mo.gov/Z9o](http://short.mdc.mo.gov/Z9o). Share your outdoor adventures with us through social media, using #MissouriOutdoorsMonth.

## WHAT IS IT? COMMON VIOLET

The common violet is one of 17 species of violets in Missouri, and true to its name, is indeed common and widespread in our state. It is also quite variable, and often hybridizes with close relatives, making it tricky for botanists to identify. The common violet usually has purple or bluish flowers with five petals and heart- or kidney-shaped leaves. Violets bloom from March to June, and sporadically in October through December.



An aerial photograph of a forest landscape. A stream flows through the center of the image, surrounded by dense trees. To the right, there is a large, open field with a mix of green and brown vegetation. The background shows a vast expanse of forest under a clear sky.

# Tending *for* Turkeys

TIMBER STAND IMPROVEMENT AND  
HABITAT MANAGEMENT BENEFITS  
TURKEYS AND OTHER SPECIES

by Francis Skalicky | photographs by David Stonner



An aerial view of Steve Phillips' Hummingbird Farm in Callaway County shows the variety of land management strategies that form good turkey habitat.



When Steve Phillips talks about improving turkey habitat on his land, it's hard to tell what excites him more — the journey or the goal.

"I'll be depressed if I ever get to the point where I can't make this better," he said as he drove across the property that has caused the retired furniture retailer to fall in love with a different type of home improvement. "Hummingbird Farm" is the charming name Phillips has given his 404-acre patch of property in eastern Callaway County, but improving living conditions for a larger bird — the eastern wild turkey — has been the focus of much of the work he has done on the land.

And his work is far from over.

"I'm just scratching the surface of what I could be doing here," he said with his ever-present smile. This type of visionary verve about habitat work on privately owned land is key to the future of wild turkeys in the Show-Me State and is a core component of MDC's Wild Turkey Habitat Initiative. This multi-year, multi-faceted project is designed to:

- Increase, among MDC staff and land managers, the understanding of the characteristics of and how to create quality brood-rearing habitat.
- Evaluate where and how much of MDC-managed lands are currently providing quality brood-rearing habitat. Identify where habitat management can be improved and revise management plans to allow for improved habitat management.

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“The Missouri Wild Turkey Habitat Initiative will help landowners, land managers, and those who enjoy the eastern wild turkey create and maintain nesting and brood-rearing habitat for years to come.”

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— Meagan Duffee-Yates, Missouri Wild Turkey Habitat Initiative coordinator

## Every Acre Matters

While a portion of these objectives focus on public land, much of the initiative’s emphasis will be on the acres in Missouri that are in private ownership. The efforts to engage private landowners, landowner cooperatives, and partner organizations are essential if the initiative is to have a positive impact on turkey habitat on a large scale in the state.

“The quantity of usable acres of nesting and brood rearing habitat on private land will, ultimately, be what makes a difference to the wild turkey population,” said Nick Oakley, MDC wild turkey and ruffed grouse biologist. “MDC land can and should function as a proving ground and training location for land management techniques, as well as a great place for public land hunting, but over 93 percent of land in Missouri is privately held, so quality habitat needs to exist there as well.”

MDC has always recognized and appreciated the roles Missouri’s farmers, ranchers, and landowners have played in establishing and maintaining the state’s turkey population. One of the most important things MDC wants landowners to remember is that their roles are important, no matter how big or small their acreages are.

“Every little bit helps and doing anything is better than doing nothing,” said Oakley. “Small, incremental improvements across the landscape will result in a mosaic of quality habitat that doesn’t need to fall on any one landowner. Turkeys have seasonal requirements that likely can’t be met on a single piece of property anyway, so every acre of improved habitat makes a big difference when viewed collectively.”

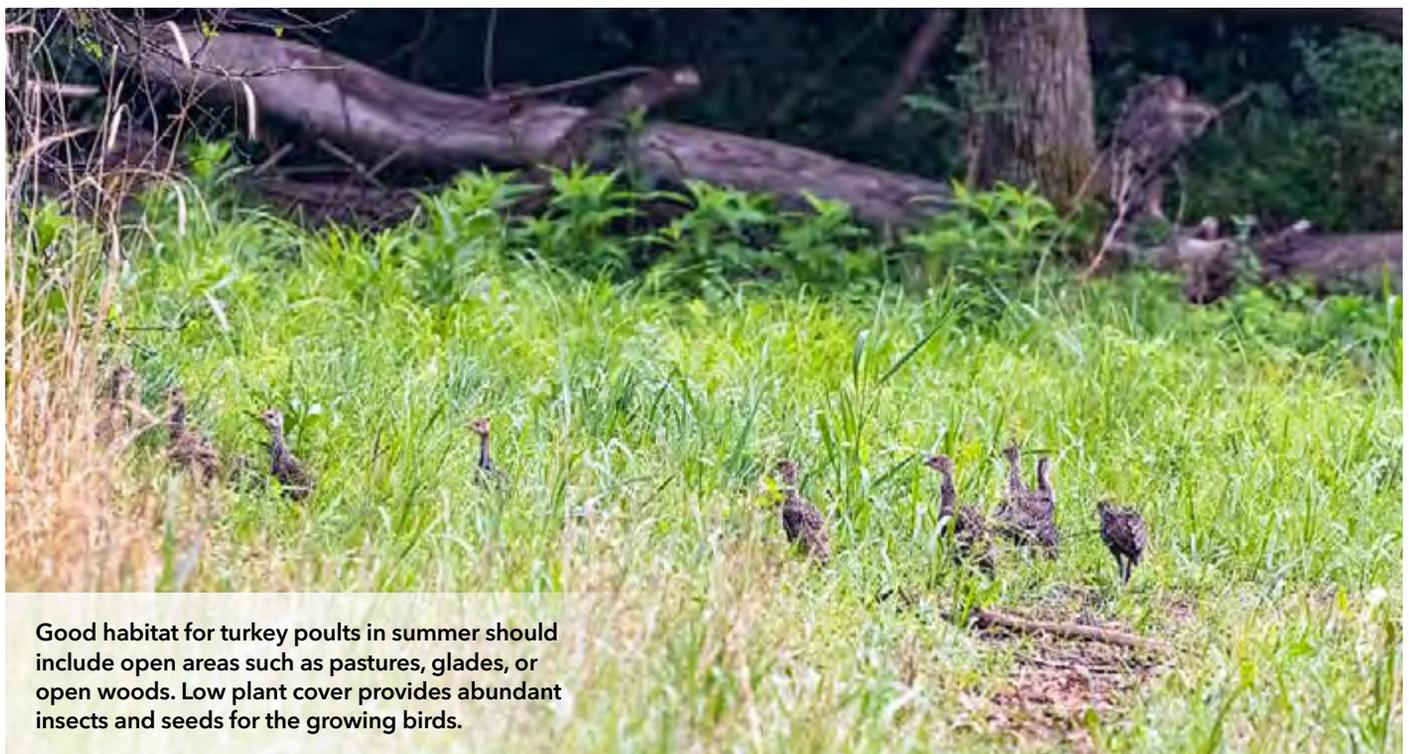
## The Challenges

This is especially true in a 21st century Missouri where the state’s turkey population of an estimated 350,000 birds is facing a multitude of challenges brought about by changes to the landscape and weather patterns. Sadly, the challenges faced by Missouri’s turkeys are part of a much larger troubling trend occurring over much of the U.S.

“Eastern turkeys (the wild turkey sub-species found in Missouri and elsewhere throughout much of the eastern and central U.S.) are in decline throughout nearly their entire range for a variety of reasons,” said John Burk, a district biologist with the National Wild Turkey Federation. “According to turkey researcher Dr. Michael Chamberlain, the decline averages about 16 percent nationally from the high-water mark of the early 2000s. In some areas it is more severe than others.”

Burk said many of the obstacles facing Missouri’s turkeys are also posing problems elsewhere in the U.S.

“A lot has changed since the early 2000s,” he said. “These changes include wetter than historically normal springs for most of the last 14 years, CRP



Good habitat for turkey poults in summer should include open areas such as pastures, glades, or open woods. Low plant cover provides abundant insects and seeds for the growing birds.

(Conservation Reserve Program) acres, which provide nesting and brood-rearing habitat, are roughly half of what they were during peak years. Other problems? High predator populations (that prey on both nests and poults), decreased insect abundance, increased prevalence of invasive plant species ... to name just a few.”

## The Opportunities

However, all is not gloom for gobblers and those who like to hunt them or hear them. While it’s true that terrestrial changes are one of the challenges wild turkeys face today, it’s equally true these birds have demonstrated a certain amount of habitat flexibility. Biologists say the key is to reward this resilience with good habitat.

“Turkeys are well adapted to their environment,” said Oakley. “If we can manage land in a way that gives them an advantage, they will be able to put it to good use.”

Burk agrees.

“In the late 1990s and early 2000s when turkey numbers were peaking, people with marginal habitat got used to hearing, hunting, and harvesting gobblers because turkey populations on ‘the good stuff’ exceeded carrying capacity and expanded out to those marginal areas,” he said. “Therefore, if you want it to be like the good old days, you have to make your property qualify as ‘the good stuff’ to the gobblers you want using it.”

Bringing the “good stuff” to Hummingbird Farm is a primary goal for Phillips. His residence is still in Kirkwood, but it’s clear his heart is in Callaway County. Habitat work he has done on his property include timber stand improvement (TSI) work, edge-feathering, and prescribed fire. Some of the open ground on his land is filled with prairie plantings that include native wildflowers and grasses while other open areas feature food plots. More than 300 trees have also been planted on the property. Phillips’ habitat work has been a journey that has involved learning as well as labor.

“I knew I had a lot of learning and work to do,” Phillips said, recalling when



**Above: Employing timber stand improvement strategies will help maintain healthy hardwood forests, which are part of turkey habitat, particularly in winter.**

**Left: Edge-feathering management practices on the borders of pastures and fields can provide valuable nesting and brood-rearing habitat for turkeys.**

he first purchased the land in 2015. “I’m a voracious reader so I gleaned a lot of information from the *Missouri Conservationist* magazine, from habitat books and, of course, from Jordon.”

Jordon is Jordon Beshears, a former MDC private land conservationist, recently promoted to district supervisor, who has worked with Phillips on his land from the outset. He said there are various components to turkey habitat, but the ingredient most-needed for all of them to be effective is patience.

“Similar to managing for other wildlife species, it takes time to improve turkey habitat,” Beshears said. “Woodland restoration, for example, is usually a multi-year process. It may take years to turn previously unmanaged woods to restored woodland, but each step along the way creates better habitat.”

## Mutually Beneficial

What's good for turkeys can also help crops and cattle. One of the points MDC's Wild Turkey Habitat Initiative wants to make is that turkey habitat management and agriculture can not only coexist — in many cases it can be mutually beneficial.

"Farming and turkey habitat can absolutely go together," Beshears said. "In row-crop operations, practices like no-till farming, planting cover crops, diversifying crop rotations, and simply not mowing idle areas or old fields during the nesting and brooding season can benefit turkeys.

"Livestock producers can improve production and turkey habitat at the same time, as well," he continued. "Rotational grazing, incorporating legumes, native grasses, and forbs into pastures, and excluding livestock access to woodlands can all pay dividends, both in turkey habitat and in livestock production."

In some cases, financial assistance is available for qualifying landowners looking to improve habitat on their land.

"MDC and USDA have programs to help offset the cost of implementing practices that will increase both habitat and the landowner's bottom line," Beshears said. Practices that frequently have cost-share options include pollinator plantings, timber stand improvement work, prescribed burning, native grass pasture plantings, legume inter-seeding, exclusion fencing for woodland areas, and cover crops.

## Working Together

Phillips' property is the largest part of the Bachelor Creek Habitat Cooperative — a group of nine adjacent landowners who

have turned habitat management into a collaborative undertaking. Beshears said a shared-effort approach to habitat improvement helps wild turkeys and the participating landowners.

"Turkeys have relatively large home ranges that often cross multiple properties," he said. "When landowners make a collaborative effort and get involved in a focused way so that they make an impact on a larger landscape, they will find it's easier to reach their common goals. Though it's a collaborative effort, each individual landowner will benefit from the actions of the group."

Phillips said the praise for what's been accomplished on his property should be shared by Beshears and by his neighbor, Marvin Cobb.

"Every year I sit with Jordon, and we develop a to-do list for that fiscal year," he said. "Jordon takes care of the paperwork and Marvin and I do the work on the land. I could not do this without Jordon and Marvin."

Phillips said his wife, Susan, has been a key partner, too.

"I also have to thank my wife, who tolerates all the time, the expense, and



Hardwood forests dominated by oaks and hickories provide large quantities of mast that are a valuable food source for turkeys in fall, winter, and early spring.



**Large areas of native grasses are essential to good turkey habitat because these open areas provide an abundance of insects for young and adult turkeys to feed on.**

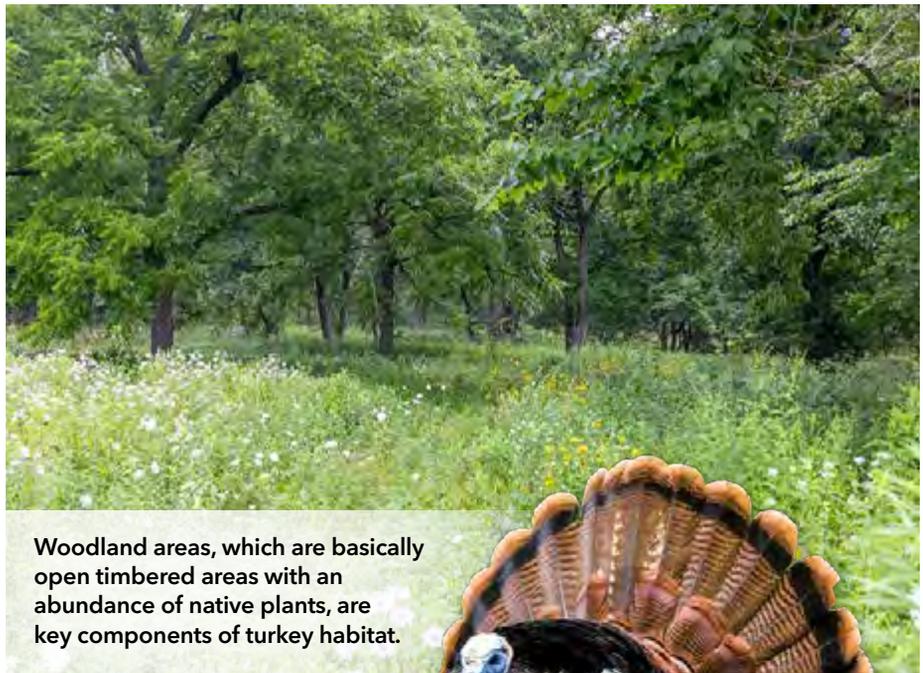
the passion that I put into this,” he said. “I don’t think she gets why I love this so much, but she loves that I get it.”

Turkeys may be near the top of Phillips’ list, but his habitat work is about more than helping one of Missouri’s top gamebirds. He knows his labors are helping many species. Providing better habitat for multiple species is another benefit of the Missouri Wild Turkey Habitat Initiative.

“Good turkey habitat is good deer and rabbit habitat, it is good hummingbird and pollinator habitat, and so on,” said Oakley. “Managing for turkeys can even improve soil, water, and timber quality. These improvements benefit every Missourian, not only the wild turkey and those of us who enjoy it.”

When Phillips looks across his property, he not only envisions turkeys reaping the benefits of his habitat work in the future. He also sees family members enjoying the land.

“I truly believe that landowners have a responsibility to do whatever they can to help to make their land better than they found it,” he said. “I do all this work because my mission is to pass this farm on to my family in the best possible condition for their enjoyment.” ▲



**Woodland areas, which are basically open timbered areas with an abundance of native plants, are key components of turkey habitat.**

*Francis Skalicky has been the media specialist for MDC’s Southwest Region since Jan. 1, 1996. He lives in Springfield and tries to enjoy the outdoors with his family as often as possible.*



Morel mushrooms against a drab background are often missed.

# Missouri Morels

CELEBRATING 70  
YEARS OF HUNTING  
THE FAVORED FUNGI

story by and photographs  
courtesy of Kenneth L. Kieser



**B**efore leaving for work on May 7, 1953, George Divelbiss, St. Joseph, had made it plain to his daughter, LaDonne Kieser, that she should stay home and relax. But LaDonne, nine months pregnant with Divelbiss's first grandchild, decided otherwise.

Without her husband, Lester, a Marine aboard an aircraft carrier headed to Korea, LaDonne decided to join her mother, Wilma, on a check of the family's cows and a short hike to look for morel mushrooms.

"I had never hunted mushrooms and heard dad talk about it many times, a longtime family tradition that added substance to meals during the tough depression years and for years before and after," LaDonne said. "I was a bit nervous about having my first baby, so taking a walk and enjoying fresh air sounded good."

The stroll over western Missouri's rolling hills was indeed pleasant with wildflowers blooming and spring foliage busting out. Their cows, standing belly deep in sweet grass, looked fine, so the mushroom hunt began.

"We started finding morels immediately, and mom had to do all of the bending over and picking," LaDonne said. "I had sharp eyes and started spotting morels several yards away. We quickly found enough for a couple of meals and returned home."

Early the next morning, LaDonne gave birth to her first son. Her father, still irritated that she'd ignored his admonition the previous day, sent a telegraph to Lester on the aircraft carrier USS Philippine Sea stating: "Your son safely arrived, in spite of his mother going mushroom hunting the day before."

## A Tradition Was Born

That first outing hooked LaDonne — May 7, 2023, will mark her 70th straight year of hunting Missouri morels.

After Lester's return from the Korean War, they bought a 160-acre family farm between Easton and Gower, Missouri, from his dad. A good-sized stretch of woods provided new areas to hunt morels with family, friends, grandchildren, and now great-grandchildren.

Their most memorable hunt happened on a sunny April afternoon in 1977.

"Lester was ready to quit when something seemingly out of place on a distant creek bank caught my eye," she said. "I walked over to find a large mushroom. Thinking there could be more on the hill, we climbed a steep creek bank and stopped dead in our tracks. The area was covered with morels over the flat ground, down into a ditch, back up the other side, and across more flat ground. Little grays and big yellow mushrooms seemed to be popping out of the soil."

Lester walked a mile back to his pickup for more bags while LaDonne and her younger son Rodney continued picking. He returned to find several piles of mushrooms stacked in different spots and they still had more to pick. They harvested several hundred mushrooms by day's end — a phenomenon never repeated on that property.

Years later, LaDonne walked three hours without finding a mushroom. She sat to rest on an elevated log, looked down and saw at least 30 morels below her perch stretching down a creek bank. She could always find at least a couple of mushrooms, even during severe dry weather conditions.

Now 92, LaDonne moves considerably slower and is slightly bent over from osteoporosis. Her days of hunting numerous acres are now down to less than an acre with help from her sons.

"Even today it's uncanny how many morel mushrooms she will find," said Rodney Kieser, her youngest son. "Moving slower with age seems to have made her even more efficient. Few are better at finding morel mushrooms, she generally finds the most."



LaDonne Kieser loves hunting mushrooms with her great-granddaughter, Ellie.

## LaDonne's Tips and Wise Words

Start looking for little gray morels about the first week of April and into May, LaDonne suggests. Go out when air temperature reaches at least a constant 55 degrees overnight. The first morels each season are small grays, and bigger mushrooms will appear a week or two later. Half-grown mayflowers are a good indicator of the required soil warmth when early morels start to appear. Early in the season means less ground vegetation and morels are easier to find.

"Try looking after a warm spring rain when conditions are favorable," LaDonne said. "You may not find mushrooms, but it is a great time to pick sweet William flowers to make your house smell good. Pick them close to your vehicle and have a vase of water ready because they wilt quickly."

Everyone has their own favorite mushroom spots. Check there but find new spots where you've never thought of looking, LaDonne advises. Spores float through the air and morels are where you find them.

Dying elm trees produce a rotting root system, and we have found morels in these areas, but only for a year or two, LaDonne



**LaDonne loves to find morel mushrooms to cook and eat. LaDonne's youngest son Rodney has spent his life looking for morel mushrooms.**

said. Apple trees with constantly rotting fruit may produce morels. Look around ash, aspen, and oak trees. Areas with good leaf matting or trees that drop their leaves and bark earlier in the fall have longer to decay and sometimes produce. Light-colored barked trees like birch, sycamore, and cottonwoods are good examples.

Early-season hunters should first check southern hillsides and creek bottoms open to sunlight that quickly warms the soil. Warming trends sometimes make eastern areas productive.

Burn areas can be good for producing morels.

"We found several for two years on a freshly burned section of timber after lightning started a fire," LaDonne said.

People look straight at a morel mushroom after hunting a while and don't see it. Sometimes look away and then back at a likely area. Your eyes may focus on a mushroom. Train your eyes and mind to see morels and you will. Otherwise, you will only see acres of vegetation.

"Slow down and look at every spot," LaDonne said. "Most people move too fast, generally lacking patience. This is not a race, so back off and enjoy the day. I sometimes look in a small area several minutes."

Did you spot one morel? You are taller than the surrounding forage, so LaDonne suggests kneeling or sitting down to study the ground. She says you will find another mushroom and sometimes several.

"Always carry a walking stick to push aside foliage," LaDonne said. "Sometimes you'll uncover a snake. Come back later or gently push the snake aside with your stick and it will crawl away. Don't hurt snakes — they eat insects and rodents."

You will need a good pair of walking boots, light colored clothing to make ticks more visible, and a mesh bag — hopefully two or three bags.

"We carry mesh bags to gather morels and release spores for growing future mushrooms," LaDonne said. "We use the same bag over and over, season after season, without washing. The rough material of the bag releases spores. Some stay in the mesh and release later."

Be aware you are sharing the woods with others.

"Be cautious during turkey season," LaDonne said. "I wear my son's orange deer hunting vest and make a lot of noise."

Very little moisture in late winter and early spring can hurt morel mushroom growth. Do you have a spot close to home where morels grow? If so, wet it down occasionally with fresh water. This works, but not always.

At the end of a good morel hunt, an all-over body check is a must.

"You may not find mushrooms, but the ticks will find you," LaDonne said. "Always do a complete tick check at days end. I sold cosmetics years ago and found ticks hate perfumed scents like rose, lavender, peppermint, or lemon."



LaDonne's granddaughter Holly loves hunting mushrooms with her grandmother.

### LaDonne's Rules For Taking Children Mushroom Hunting

Talk about mushroom hunting with your child so they will want to try it, LaDonne suggests, and make the first trips about having fun. Pick your weather carefully when taking a child mushroom hunting. They will stay longer on a beautiful day.

"When you can't find mushrooms and they are getting bored, take them home," LaDonne said. "You can return later."

If your child wants to explore, let them look around in a safe area while staying in your sight. A child almost never has an adult's patience.

Let your child pick the mushrooms you find. Show them how to pinch low on the stem. This will make them want to find more. Teach them the difference between true morels and false morels. False morels have solid caps and look a bit different. Make sure everyone knows that false versions can make you sick.

Once you get home, encourage your child to help cook and taste the mushrooms for the full experience.

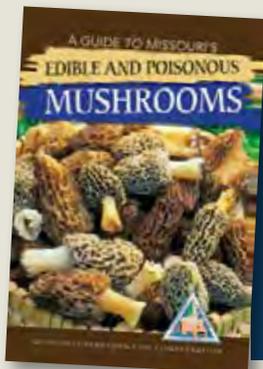
### Cooking Tips

"Years ago, we soaked morel mushrooms in saltwater like fish, but that doesn't work," LaDonne said. "Preparing morel mushrooms is simple. Start by soaking morels in clean water a couple of hours then make sure to wash out any bugs living inside. I slice them lengthwise in half to be safe. Try cutting your morels in little pieces to mix in omelets. Most mushroom hunters cut each morel in half and dip them in eggs before frying in cornmeal, flour, or crushed crackers. Either way, fry until golden brown and don't invite company that night." ▲

*Kenneth Kieser is a freelance writer. He also is the baby LaDonne was carrying on her first morel mushroom hunt in 1953.*



LaDonne has fried a few thousand morel mushrooms in her 92 years. Plates of morel mushrooms cooked to a golden brown don't last long.



For more information about morels and other Missouri mushrooms, consult *A Guide to Missouri's Edible and Poisonous Mushrooms* at [short.mdc.mo.gov/ZNf](http://short.mdc.mo.gov/ZNf) or order a free copy at [short.mdc.mo.gov/4Yq](http://short.mdc.mo.gov/4Yq).





# Nature *at a* Different Pace

PRACTICAL TIPS FOR HITTING  
THE GROUND RUNNING

by Tim Kjellesvik

**S**omewhere between hiking and running there's an unexplored, in-between world waiting for you — one that offers the peace and nature-immersion of hiking with the health and mileage of running. Lace up your shoes and fill up that water bottle. We're taking your first steps into trail running!

PHOTOGRAPH BY  
TIM KJELLESVIK



## Why Trail Running?

First, let's put off the dire warnings of non-runners who are likely to tell you, "You'll blow your knees out." Increasing research shows that consistent use of joints is the best way to keep them healthy. The living room couch and the office chair threaten your well-being more than running shoes. Shall we press on?

Having been an avid backpacker, hunter, and marathoner for years, it wasn't until I began training for an

ultramarathon that I discovered the magic of trail running. Instead of pounding out grueling miles on the pavement, my feet were navigating diverse single-track trails comprised of packed dirt, chunky limestone, mud, gravel, downed trees, standing water, and a host of other surprises that made each bend a guessing game of what was coming next. Trail running is an adventure.

The mental game of intentionally choosing placement for each footfall

was a new and more stimulating way to engage my brain as the miles slipped by. Turns out, trail running is fun. And since your body is constantly adapting to the changing terrain, you're less likely to suffer repetitive stress injuries.

Trail running also does more to engage the fitness of your whole body, especially your core as you work to stabilize yourself over changing terrain. Creek crossings, tree trunks on the trail, ice, gnarly rocks, you've got to learn to almost "flow" over them all. They're part



Don't miss the forest for the trees as you run. Soak in the wonders of nature all around you.



of your course and require different contortions of your body.

At this point, you might be wondering, What about walking? Is that allowed in trail running?

Absolutely. Whether it's part of your interval training, the trickiness of the trail, just to recuperate, or working out some cramps, walking can be as much a part of your trail running as you like.

But the best part of trail running is the unique insight into the natural world it provides. I've run into groups of

late-winter deer browsing in the timber, their white tails bounding off ahead of me as if I were running with the herd. I've stopped for a breather to admire the bright-yellow hash marks on a box turtle in no hurry crossing the trail. I've seen lush, green life pump itself back into the forest as I weekly ran the same trail from winter into late spring. I felt connected to that ecosystem in a way I had with few others. Trail running created a unique familiarity with the forests and wildlife, like that of an old friend.

### **Pro Tip:**

Empty your vehicle of any valuables before leaving for the trailhead. If you can't do that, stow them out of sight in your vehicle so they don't attract a potential parking lot break-in. Take your keys with you and don't hide them on your parked vehicle.

## Get the Gear

Ready to get going? Let's go over some of the gear considerations to help you have the best experience possible.

Shoes are the connection between you and the trail, making them top priority in your trail-running equation. A great shoe is going to be heavier and more rugged than a typical running shoe, yet lighter and more flexible than a hiking boot. In a world built for online shopping, this is where stopping in at your local running store outweighs the convenience of ordering over the internet.

A trained salesperson can diagnose your gait and make suggestions based on the type of trails you'll be on. Will it be rocky? Muddy? Sandy? Wet? Snowy? Those answers will inform the kind of shoe you purchase. Should you get shoes with a waterproof membrane? A stiff shank in the sole to protect against sharp rocks? Shoes are always a good investment, and you typically get what you pay for. Consider tossing in a couple pairs of wool or synthetic socks, too.

Clothing can be simple. Just dress comfortably for the weather and conditions with apparel made of sweat-wicking material. Since you never know what the trail may throw at you, keeping a change of clothes at your vehicle will keep your car seats clean. After a few sweaty or muddy miles, a set of clean clothes to change into will feel like a decadence.

If your runs are under two or three miles, a simple water bottle may be sufficient for on-the-trail hydration, especially if there are no drinking fountains available. Longer miles and longer durations on the trail may require a hydration belt capable of holding water and some high-energy snacks.

If you really plan on going the distance, an endurance vest is a great tool. Spacious enough for water, snacks, energy gels, cell phone, electrolyte drinks, rain jacket, salt tabs, and other goodies, these vests are designed to cinch down against your body to minimize the bouncing and jostling of your gear.

While we're on the topic of gear, let's stop at a scenic overlook for a minute



and discuss technology. Trail running can be done as simply as you like. No phone, no GPS watch, no heart rate monitor, no earbuds, just you and the trail. Or you can add in devices to augment your performance and data collection. Just maintain awareness of the trail and others around you, and there is no wrong answer here.

My longest trail runs training for the ultra were over 25 miles, so, technology-wise, I'd take my fully charged phone, earbuds for music (but only using one ear at a time so I could hear others on the trail), and my GPS watch. Call me old fashioned, but despite having digital GPS maps, I still like to grab a hardcopy conservation area brochure at the trailhead, just in case. These brochures also point out features you may want to incorporate into your route, like springs, scenic overlooks, or on the practical side, restrooms.

**The right gear and tools should enhance your experience, not complicate it.**

### Tracking Tech for the Trail:

There are lots of options for GPS mapping apps to choose from. Here are some of the best:

- Strava
- DeerCast
- Map My Run
- Run Keeper
- Nike Run Club

## Play It Safe

You may have all the right gear, but your brain is still the best tool to keep you safe and having a great time as you pound the path. While trail running is less likely to induce repetitive stress injuries, given the changing and uneven nature of most trails, there is a chance of a misstep, resulting in a twisted ankle, bumps, bruises, or even a fall. Use your judgment and go at a pace that allows you to choose where you'll place your feet and a pace that allows you to stop if need be. Overrunning your legs changes your center of gravity, making you more likely to stumble if you put down a bad step. Shorter strides with your feet directly under you will give you the best chance at recovering from a misstep.

Boost the safety factor by running with a buddy. Not only is it more fun, but you'll have someone to snap a few pics of you, and they can help in case something happens. If you run alone, like I do, be sure you've let someone know where you'll be, where you'll park, and about what time you'll be out. You can also enable your phone and certain apps to report your location to a friend or family member if you're in an area with cell coverage.

You'll also want to be realistic about your ability. Trail running can turn from adventure to misadventure if you overestimate the ground you think you can cover. Or maybe the mileage is fine, but the elevation gain is greater than what you've done before. Perhaps you've only ever run on pavement. Five miles on a trail is probably going to be more challenging than five miles on the road. Extreme heat and cold can also affect your performance and ability.

Which is where nutrition comes in. As a trail runner, managing hydration is crucial. The quick rule is to never let yourself get thirsty. Thirst is a lagging indicator of hydration and by the time your mouth is dry, you've already become dehydrated, so be sure to stay ahead of it.

For longer efforts, and runs that really bring on a sweat, maintaining electrolytes will keep you performing at a higher level and stave off cramping. On greater distances, especially in our Missouri summers, I like to load my endurance vest with one bottle of straight water and the other with a high-concentration electrolyte drink. With both bottles onboard, I can play mixologist on the trail and sip to suit my needs.



Technique, safety, and nutrition are crucial to a successful trail run, especially as the miles increase.

### Kit for Going the Long Haul

- Medical tape
- Energy gel
- Phone
- Area map
- Earbuds
- GPS watch
- Banana
- Electrolytes
- Water bottles

## Trail Etiquette

Depending on the time of year, location, and weather conditions, you may have the whole trail to yourself, or you may be one of many people out enjoying nature. Interactions with others on the path can enrich your experience — and theirs — especially if you follow these simple rules of trail etiquette.

Just like driving on a road, keep to the right of the trail and allow faster traffic to pass on the left. If you're about to overtake someone, politely and with plenty of warning, announce, "On your left." If you need to stop for some reason, step off the trail so you don't impede someone else's progress.

In terms of right-of-way, trail runners are considered pedestrians, just like hikers or backpackers, so we yield right-of-way to bikers and horseback riders. Especially on single-track, where space gets tight, simply step off to the right of the trail and allow them to pass. When horses are involved, I like to give them extra space, minimize my movement, and keep my greeting a little quieter to avoid spooking the animal.

Listening to music or podcasts can be a great way to stay motivated, just be sure you're listening at levels that allow you to hear what's happening around you. Wearing just one earbud at a time can help you maintain that balance.

Wrappers from your on-trail nutrition should leave the woods with you. Some endurance vests and hydration belts come equipped with a built-in garbage bag that make it easy to stow your trash. If you can, pick up litter that others have left to keep the trail natural and beautiful.

Finally, be friendly and encouraging to everyone you encounter. You don't know how far they've gone or how far they've yet to go. Just as in life, it's difficult to fully appreciate someone else's journey. A simple thumbs up or hand wave could mean the world to them.

**It's easy to get in the zone on a trail, but it's important to be aware of other people, too.**





Obstacles or opportunities? Trail running is a mental game and is won with optimism for what the trail may throw at you.



### Let's GO!

OK, you're ready to hit the trail, but where do you start? For a full list of conservation areas where you can run, just go to [short.mdc.mo.gov/Z9o](https://short.mdc.mo.gov/Z9o) and under the Advanced Search option, select *Hiking*. From there, you'll see a map with suggested locations and a list view of your results. Be aware most nature center trails do not allow trail running.

Personally, I like Rockwoods Range in St. Louis County, Burr Oak Woods Conservation Area in Jackson County, and Eagle Bluffs Conservation Area in Boone County.

Trail running is the best of both the hiking and the running worlds. It simultaneously challenges you physically while rewarding you with improved fitness and a new appreciation for the outdoors.

Isn't it time you lace up your shoes, hit the trail, and experience nature at a different pace? ▲

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*Tim Kjellesvik is an ultramarathoner, bowhunter, and editor in chief of DeerCast.*

# Get Outside

in APRIL

→ Ways to connect with nature



Bird's-foot violet

## More than Morels

Are you finding morels? Morels — yellow, black, and half-free — begin appearing in April. A springtime walk in the woods in search of these choice edibles is never a wasted day, whether you are finding them or not. If you are coming up empty handed, take heart. There are other edibles blooming all around:

**Redbuds** start blooming in late March and continue through early May. They're one of our showiest native flowering trees. Did you know their magenta blossoms are edible? Top your salad with them or use them in jelly.



Redbud

**Common dandelions** can be annoying weeds, but they can also be delicious edible plants. Fry the flowerheads like you would morels or put them into pancakes. You can make wine from them, too. Or pick their tender new leaves and have them in a salad. Always forage your wild edibles in places where pesticides have not been used.

## Brief Butterfly

If you enjoy looking at the state's various wildflowers, seek out bird's-foot violets on Ozark glades. Chances are if you find them, you may catch a glimpse of a cobweb skipper, a single-brood butterfly that flies only from mid-April into May. The adults love the nectar of the bird's-foot violet, which starts blooming on Ozark glades in April. They also visit other early wildflowers such as wild hyacinth, wild strawberry, rose verbena, and dwarf larkspur. Cobweb skipper caterpillars eat big bluestem grass, which is also common in Ozark glades.



May beetle

## They're Back

May beetles, also called June bugs, begin flying clumsily around porch lights, crash-landing, lying on their backs, and waving their legs helplessly. Though they are a nuisance to most humans, bats, now active and breeding, avidly hunt these chunky night-flyers.

### Natural Events to See This Month

Here's what's going on in the natural world.



Ticks become active.



Tiger salamanders engage in courtship.



Black bears become active.

VIRTUAL

## Outdoor Cooking

Cast iron cooking is a fun and tasty way to add to any outdoor adventure. This series of virtual programs is designed to boost your knowledge so you can cook a wide variety of great recipes around camp while making it fun and easy!

### Part 5: Outdoor Cooking for Kids

Tuesday • April 11 • noon-1 p.m.

Registration required by April 11 at [short.mdc.mo.gov/4Yu](http://short.mdc.mo.gov/4Yu) or by calling 888-283-0364.

All ages.

In part five, we will cover methods of outdoor cooking with little campers so they can be involved and excited about spending time outdoors.

### Part 6: The Recipes Program

Tuesday • April 18 • noon-1 p.m.

Registration required by April 18 at [short.mdc.mo.gov/4YL](http://short.mdc.mo.gov/4YL) or by calling 888-283-0364.

All ages.

In this sixth and final virtual program of the series, we will talk about finding and developing recipes and how to make any recipe work in camp, around a campfire, or maybe just at home.

## Fish Watching

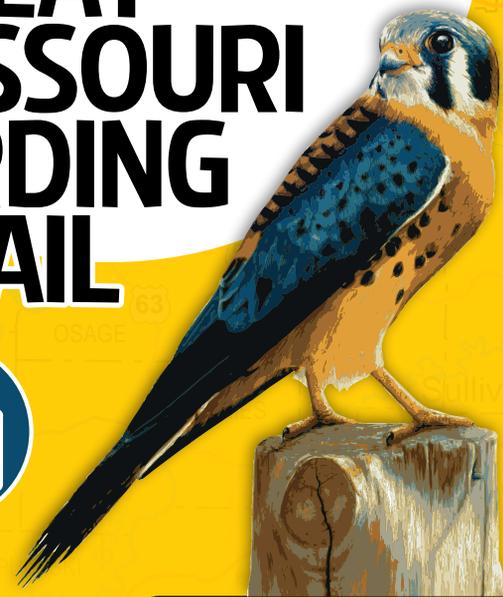
Spring and early summer is a great time to observe the activities of fish, like darters, because many species are spawning. Missouri has 44 different types of darters. During spawning, they are often concentrated in shallow water, display bright spawning colors, and exhibit territorial defense, nest construction, courtship, spawning, and parental care. To successfully view fish while spawning, try quiet days when there's no wind to break up the water surface. Approach cautiously and keep a low profile. Try using binoculars and polarized sunglasses to reduce solar reflections. Avoid creating vibrations that can be transferred to water.



Niangua darter



# DISCOVER NATURE *on the* GREAT MISSOURI BIRDING TRAIL



The **Great Missouri Birding Trail** is an online interactive map of the best places to bird in the state to introduce new and seasoned birders to over 335 bird species that annually visit Missouri. Let's go birding!



THE TRAIL IS DIVIDED INTO SIX REGIONS, INCLUDING ST. LOUIS, CENTRAL, KANSAS CITY, SOUTHWEST, SOUTHEAST, AND NORTHEAST.



Visit [greatmissouribirdingtrail.com](http://greatmissouribirdingtrail.com) to find birding locations near you, what birds you may see, information on Missouri's diverse habitats, and more.

# Places to Go

SAINT LOUIS REGION

## Little Indian Creek Conservation Area

Trails. Trails. Trails.

by Larry Archer

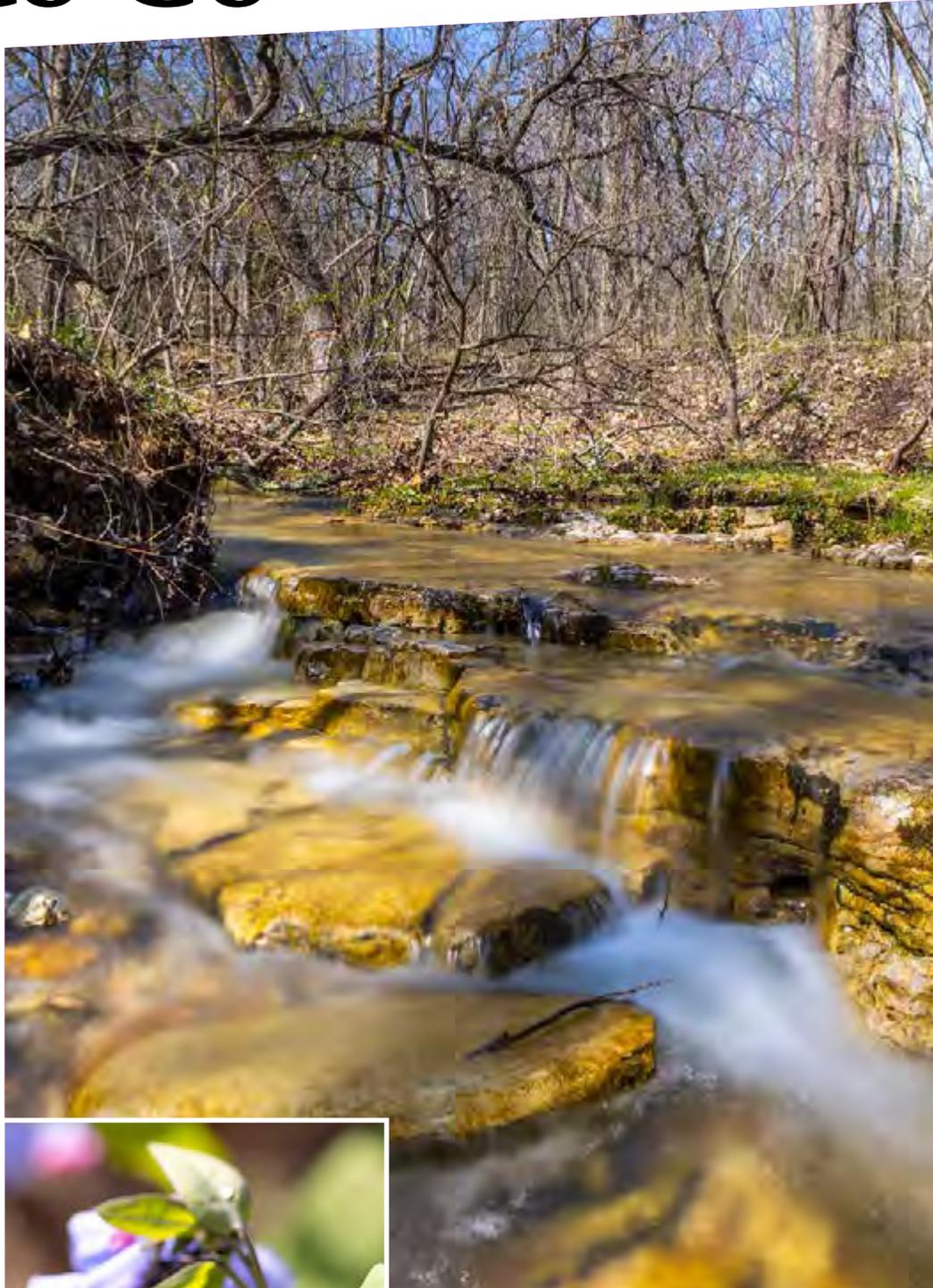
✳ With more than 20 miles of multiuse trails and access roads, there are very few of Little Indian Creek Conservation Area's (CA) more than 4,200 acres that are not accessible by foot, horseback, or bike.

"We have a 10.5-mile multiuse trail open to hikers, bicyclists, and horses that gets quite a bit of use," said MDC Forester Matt Pilz. "That's a pretty good way to see most of the area. You're going to be able to see a variety of different habitats, from open woodlands and rocky glades to deep interior forest conditions. You'll be able to see a lot of the habitat work that we've done along those trails, whether it be woodland restoration thinning and prescribed burning or timber harvest work."

Located in Franklin and Washington counties, Little Indian Creek CA offers visitors more than the opportunity to hike, bike, and ride, Pilz said.

"It would be a great area to go birding as well, because we have that variety of habitat. There's interior forest, more open glade and woodland, as well as some open ground," he said. "So, I've seen quite a few different species there."

The area also offers an unstaffed rifle and pistol range with varying target distances and a shotgun range.

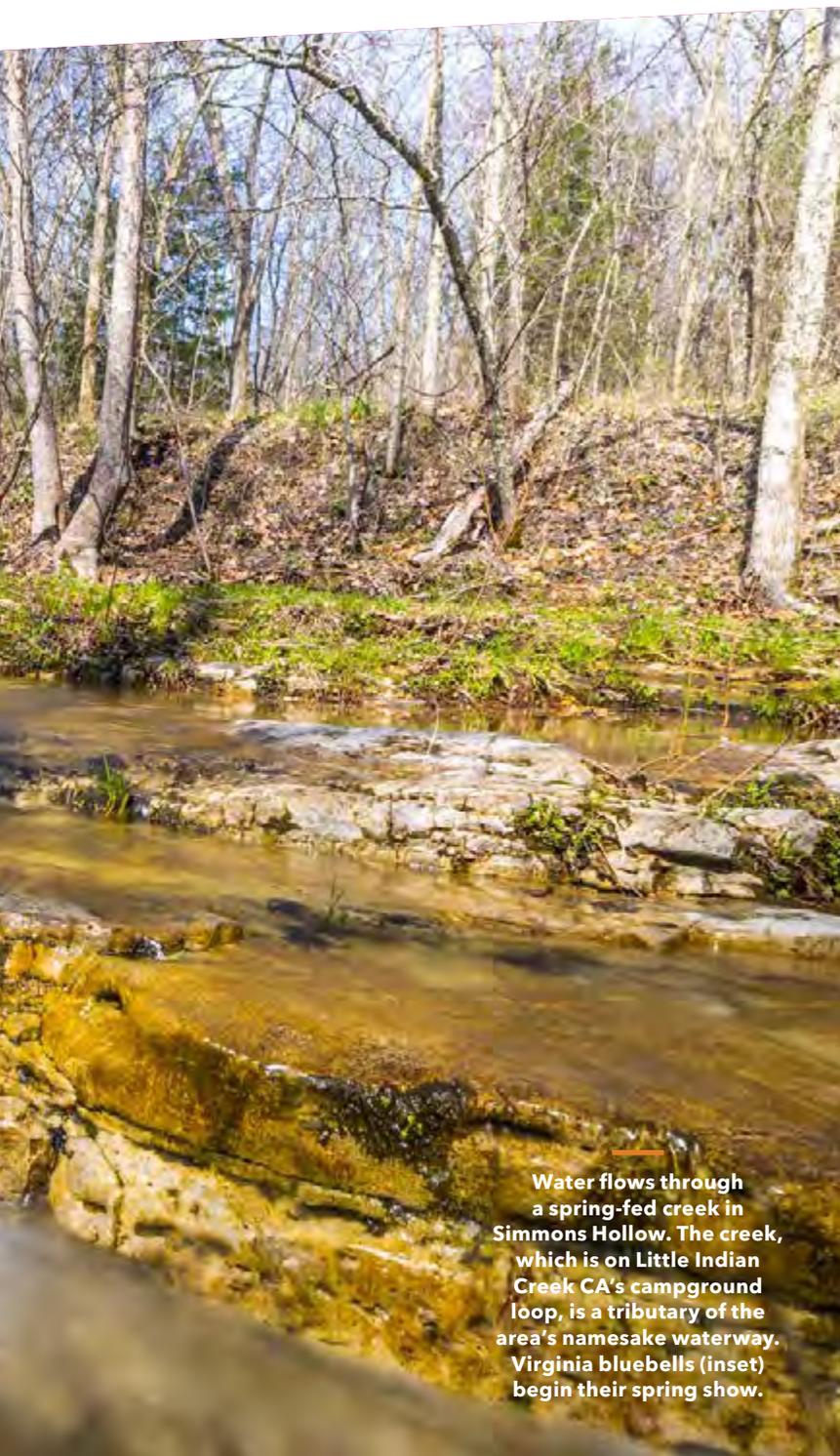


Virginia bluebell

"There's a couple of glades along the multiuse trail that I like to visit and have a look at. We've done quite a bit of habitat restoration with some thinning work and prescribed burning, so there's usually a pretty good array of native grasses, wildflowers, things like that."

—MDC Forester Matt Pilz

DAVID STONNER



Water flows through a spring-fed creek in Simmons Hollow. The creek, which is on Little Indian Creek CA's campground loop, is a tributary of the area's namesake waterway. Virginia bluebells (inset) begin their spring show.



## LITTLE INDIAN CREEK CONSERVATION AREA

consists of 4,204.6 acres in Franklin and Washington counties. North entrance: From Highway 30, take Route K south across the Meramec River, then Old Route K left .5 mile, then Little Indian Creek Road 3 miles to the area sign. South entrance to new shooting range: From I-44, take Highway 185 south 7 miles, then Route A east 6 miles to the area sign.

38.1895, -90.9513

[short.mdc.mo.gov/4fC](http://short.mdc.mo.gov/4fC) 636-441-4554

### WHAT TO DO WHEN YOU VISIT

-  **Biking** Includes 10.7 miles of improved and service roads and 10.5 miles of multiuse (hiking, biking, horseback riding) trails. Both trail types are closed to biking and horseback riding during firearms deer and spring turkey seasons.
-  **Birdwatching** Included in the National Audubon Society's Upper/Middle Meramec River Watershed Important Bird Area ([short.mdc.mo.gov/4fF](http://short.mdc.mo.gov/4fF)). The eBird list of birds recorded at Little Indian Creek CA is available at [short.mdc.mo.gov/4fy](http://short.mdc.mo.gov/4fy).
-  **Camping** Six individual campsites; special use permit required.
-  **Fishing** Sunfish.
-  **Hunting Deer and turkey** Regulations are subject to annual changes. Refer to MDC's regulation page online at [short.mdc.mo.gov/Zjw](http://short.mdc.mo.gov/Zjw).  
Also **bear, quail, dove, rabbit, and squirrel**
-  **Shooting Range** Unstaffed shooting range with 25-, 50-, and 100-yard target holders and shotgun range. Closed on Mondays for maintenance.
-  **Trapping** Special use permit required.

### WHAT TO LOOK FOR WHEN YOU VISIT



Scarlet tanager



Rough greensnake



## Red-Banded Hairstreak

*Calycopis cecrops*

### Status

Varied

### Size

Wingspan:  $\frac{3}{4}$ -1 inch

### Distribution

South of the Missouri River, common in the Ozarks, rare in northern Missouri



### Did You Know?

The red-banded-hairstreak's species name, *cecrops*, originated in ancient Greece. Cecrops was the name of a mythical king whose top half looked like a person and bottom half looked like a fish or reptile. We surmise that this name may have been chosen because this butterfly appears to have two heads — a double form.

**T**he red-banded hairstreak's tannish-gray underside has a unique pattern of white, black, and red-orange bands. Hallmarks of the group include relatively bold eyespots and small, threadlike hindwing "tails." The tails function as mock antennae to fool predators into targeting the outer hindwing edge, instead of the butterfly's head. Hairstreaks habitually rub the hindwings up and down, wiggling the false antennae, adding to the ruse. Larvae are drab brownish yellow-green with an indistinct bluish-green line running down the back and a heavy covering of short, brownish hairs.



### LIFE CYCLE

Adults are most active at dusk, flying from mid-April into October. Males perch on the leaves of trees and shrubs, especially in the afternoon, to await females. Females lay eggs singly on the undersides of dead leaves on the ground, near a host plant. The caterpillars hibernate. Red-banded hairstreaks have three broods.



### FOODS

Caterpillars mostly feed on the ground, eating decaying sumac leaves and oak litter. Caterpillars grow slowly, feeding on waste and debris. Adults visit a variety of flowers and moist places for fluids and nutrients.

# Outdoor Calendar

MISSOURI DEPARTMENT OF CONSERVATION

## FISHING

### Black Bass

Impounded waters and non-Ozark streams:  
Open all year

Most streams south of the Missouri River:

- ▶ Catch-and-Release:  
March 1–May 26, 2023
- ▶ Catch-and-Keep:  
May 27, 2023–Feb. 29, 2024

### Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2023

### Nongame Fish Giggling

Impounded Waters, sunrise to sunset:  
Feb. 16–Sept. 14, 2023

### Paddlefish

Statewide:

March 15–April 30, 2023

On the Mississippi River:

March 15–May 15, 2023

Sept. 15–Dec. 15, 2023

### Trout Parks

State trout parks are open seven days a week  
March 1 through Oct. 31.

Catch-and-Keep:

March 1–Oct. 31, 2023

### Spring Turkey Season

Spring turkey hunting youth weekend is April 1 and 2, with the regular spring season running April 17 through

May 7. Find detailed information in the *2023 Spring Turkey Hunting Regulations and Information* booklet, available where permits are sold and online at [short.mdc.mo.gov/ZZf](http://short.mdc.mo.gov/ZZf).



### Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to buy permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you buy permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at [short.mdc.mo.gov/Zi2](http://short.mdc.mo.gov/Zi2).

## HUNTING

### Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2023

### Coyote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

### Crow

Nov. 1, 2023–March 3, 2024

### Deer

Archery:

Sept. 15–Nov. 10, 2023

Nov. 22, 2023–Jan. 15, 2024

Firearms:

- ▶ **New!** Early Antlerless Portion (open areas only): Oct. 6–8, 2023
- ▶ Early Youth Portion (ages 6–15): Oct. 28–29, 2023
- ▶ November Portion: Nov. 11–21, 2023
- ▶ **New!** CWD Portion (open areas only): Nov. 22–26, 2023
- ▶ Late Youth Portion (ages 6–15): Nov. 24–26, 2023
- ▶ Late Antlerless Portion (open areas only): Dec. 2–10, 2023
- ▶ Alternative Methods Portion: Dec. 23, 2023–Jan. 2, 2024

### Groundhog (Woodchuck)

May 8–Dec. 15, 2023



### Pheasant

Youth (ages 6–15):

Oct. 28–29, 2023

Regular:

Nov. 1, 2023–Jan. 15, 2024

### Quail

Youth (ages 6–15):

Oct. 28–29, 2023

Regular:

Nov. 1, 2023–Jan. 15, 2024

### Rabbit

Oct. 1, 2023–Feb. 15, 2024

### Squirrel

May 27, 2023–Feb. 15, 2024

### Turkey

Archery:

Sept. 15–Nov. 10, 2023

Nov. 22, 2023–Jan. 15, 2024

Firearms:

- ▶ Youth (ages 6–15): April 1–2, 2023
- ▶ Spring: April 17–May 7, 2023
- ▶ Fall: Oct. 1–31, 2023

### Waterfowl

See the Migratory Bird and Waterfowl Hunting Digest or visit [short.mdc.mo.gov/ZZx](http://short.mdc.mo.gov/ZZx) for more information.

## TRAPPING

### New! Special Trapping Season for Private Lands Only:

Coyote, Opossum, Raccoon, Striped Skunk

March 1–April 14, 2023

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at [short.mdc.mo.gov/Zib](http://short.mdc.mo.gov/Zib). Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at [short.mdc.mo.gov/ZZf](http://short.mdc.mo.gov/ZZf).



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Missouri outdoors during spring is alive. For many species — including the monarch butterfly — the life cycle turns this time of year. You may come across the monarch's delicate eggs, laid on leaves of a recently sprouted milkweed, that will hatch caterpillars. As with all wildlife, discover but don't touch! Leave wildlife wild.

📷 by **Noppadol Paothong**

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